THE JOURNAL OF BONE AND JOINT SURGERY

Quinquennial Index

1963 - 1967

Volumes 45 - 49

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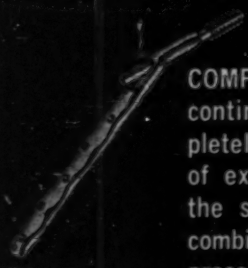

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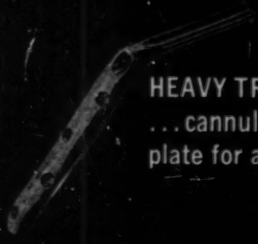

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AMERICAN EDITORIAL OFFICE
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It is twenty-one years since the generosity of America and the determination of Britain achieved joint publication from Boston and London of the Journal of Bone and Joint Surgery, which in its monthly issues has by far the widest circulation of any specialist surgical journal in the world. This success from America and Britain has been unparalleled, supported as it is by the enthusiasm of corresponding editors from many nations.

One evidence of friendly and successful collaboration is this Quinquennial Index, the fourth in twenty years. Formerly we each produced our own, differing in style and format; but now after thinking and working together we have produced jointly the index that we believe will best help readers.

It conforms with international librarian standards. It analyses not only the titles but the contents of every article. It records also observations made in scientific discussions and proceedings of meetings which are often valuable, but at the same time distinguishes these from full page contributions which are marked with an asterisk. In this difficult task we acknowledge the work of our very good librarian Mr Cyril Davenport.

The Editorial Boards trust that they have helped readers who no doubt should have read and remembered the contributions so carefully that they need no index at all. But we will forgive them for needing a quinquennial index.

Reginald Watson-Jones

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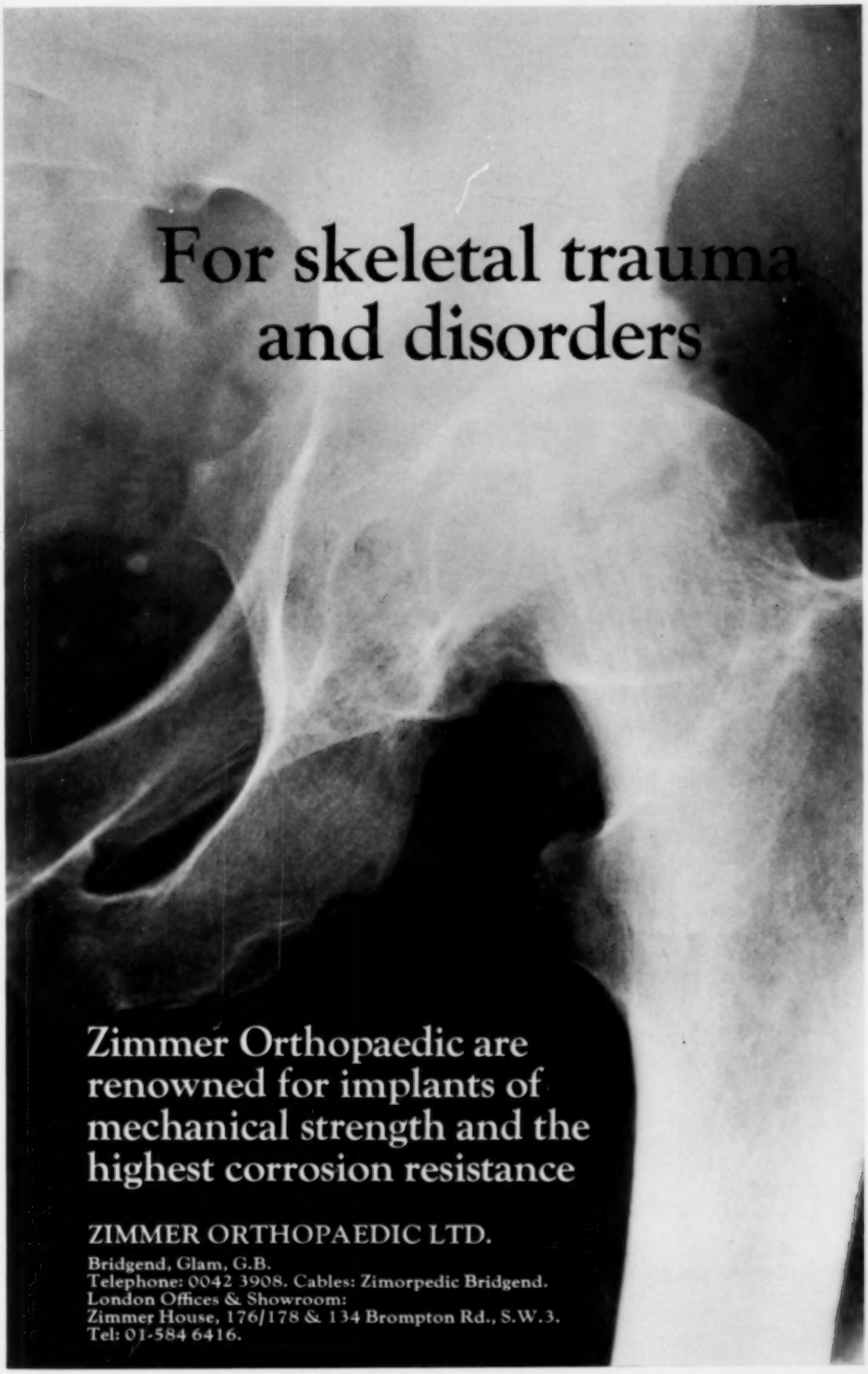
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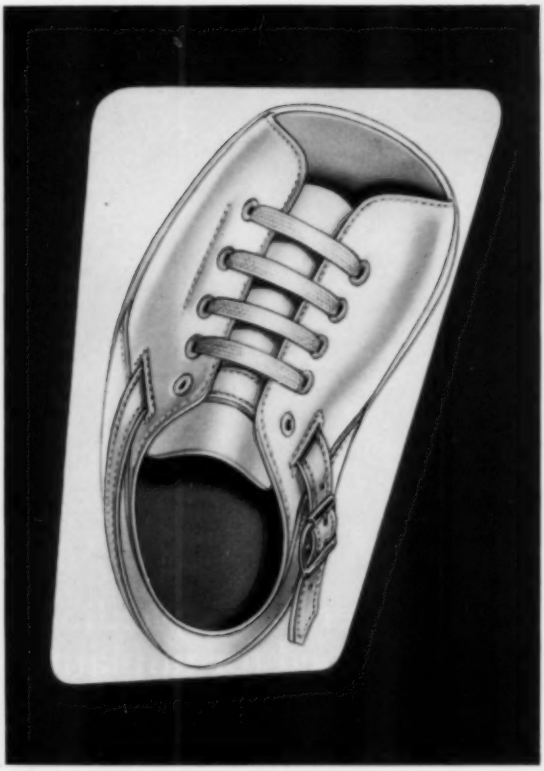

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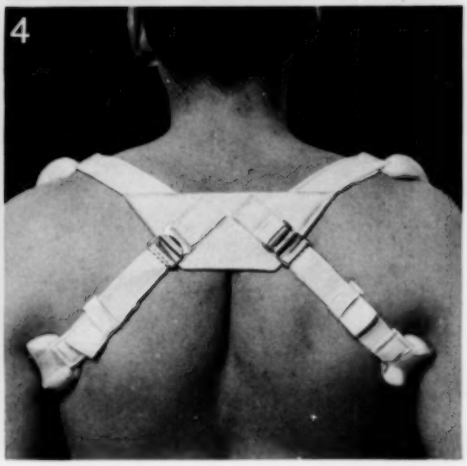

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Freyberg, R.H.: M. Times *95*:740 (July) 1967.

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The Merck Manual, 11 ed. p. 953, 1966. (Current edition)

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Arthritis & Rheumatism *9*:205 (Apr.) 1966.

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Engelman, E.P.: in Current Diagnosis and Treatment, p. 432, 1965.

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Primer on the Rheumatic Diseases, J.A.M.A. *190*:127 (Oct. 12) 1964.

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Smith, R.T.: M. Sc. *15*:75 (Jan.) 1964.

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Today's Drugs, Brit. M.J. *2*:1317 (Nov.) 1963.

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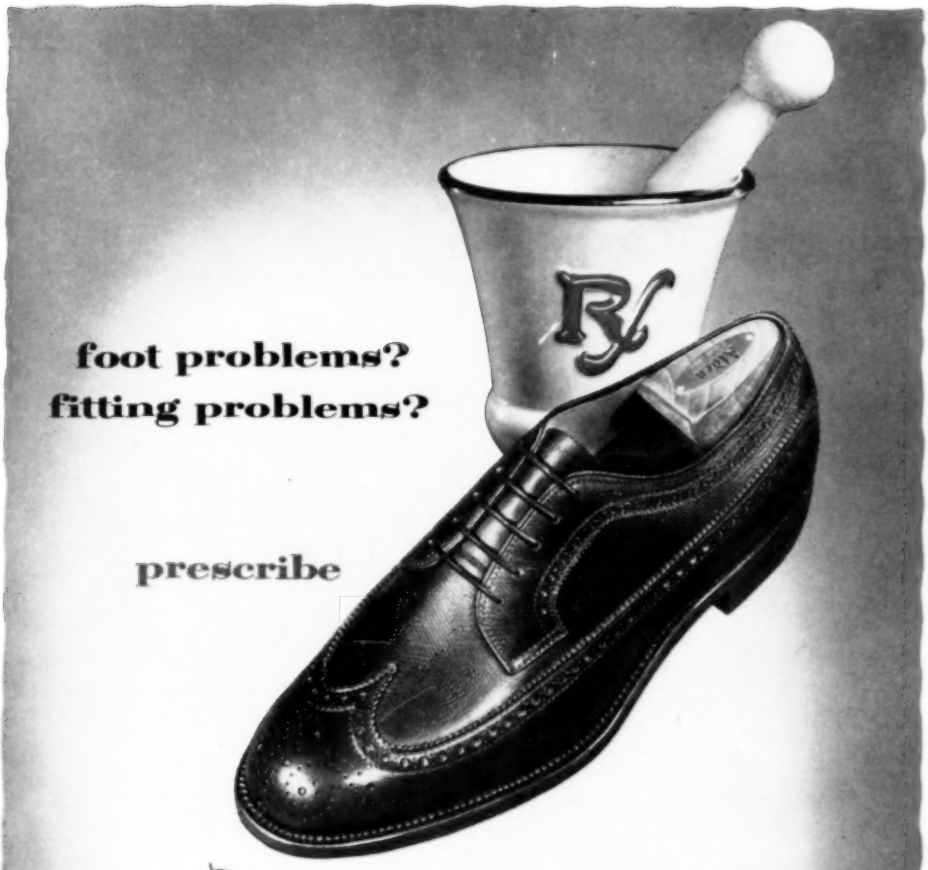

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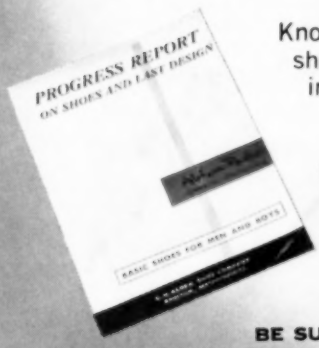

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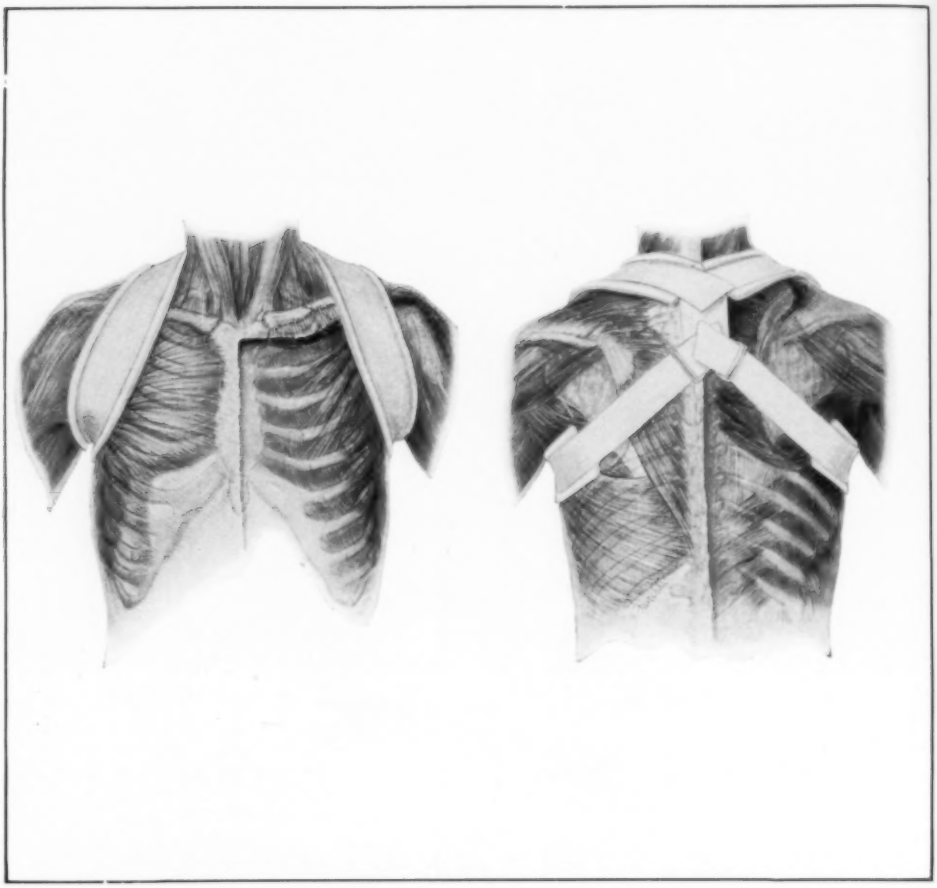

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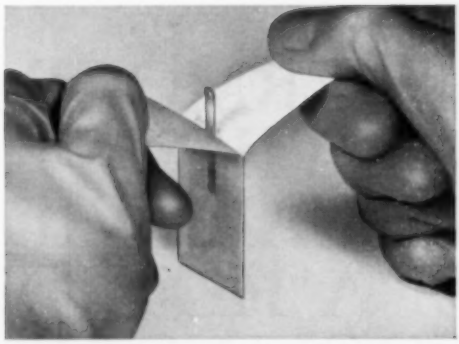

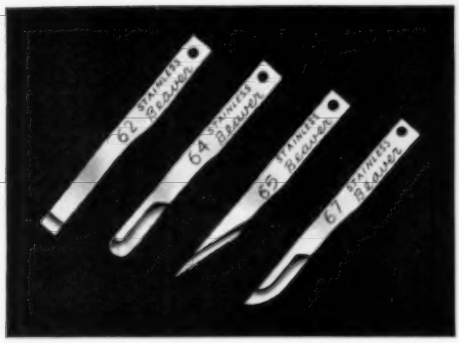

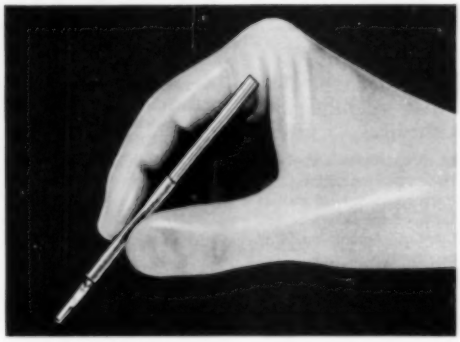

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THERMOGRAPHY PROVIDES VISUAL EVIDENCE OF A "HOT JOINT" COOLING OFF

Thermography—a new technique in medical diagnosis

Skin temperatures recorded on film. As the x-ray machine produces pictures of various organs and bones of the body, so the Thermograph records on film temperature measurements of the skin. The Thermograph is a special infrared camera which produces thermal photographic images, or thermograms, of exposed areas of human skin. Each thermogram contains 60,000 discrete temperature measurements arranged in a raster of lines similar to those of a television image.

Infrared radiation measured. All objects, including the human body, emit infrared radiation spontaneously and continuously. The amounts of radiation are in direct proportion to the temperature. As the temperature increases, the amounts of infrared radiation increase and, conversely, as the temperature decreases, infrared radiation decreases.

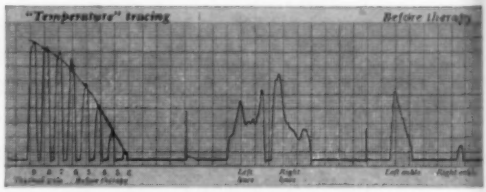
Skin temperature changes reflect underlying physiologic changes. Current studies suggest that the Thermograph, by detecting and indicating abnormal skin temperature conditions, can locate deep-seated lesions and provide objective evidence of early stages of disease. It can also indicate the course of certain diseases by temperature changes. Thus, it offers great potential as a diagnostic tool—to supplement existing methods or, in some cases, to provide the only available information.

Characteristic thermal pattern associated with rheumatoid arthritis. A typical thermal pattern has emerged in rheumatoid arthritis, characterized by thermographic visual evidence of "hot joints" with associated prominent venous drainage. The heat emitted increases with flare-up and decreases with improvement. Joints may give off increased amounts of measurable heat before symptoms can be detected by either patient or physician. Thermograms thus provide a possible diagnostic clue to the onset of inflammation. Successful therapy is suggested by objective thermographic evidence of cooling of the affected joints.

In the thermograms shown at right, various standardization procedures were employed to assure precise comparative readings. The Thermal Gray Scale, which appears to the right of each photograph as a vertical series of small boxes, is a known controlled temperature source used to obtain absolute temperature information from the thermogram. Each box—reading from bottom to top—is accurately calibrated to reproduce the precise shade of gray (ranging from white to almost black) represented by a lowering of the skin temperature 1.0°C. Thermogram readings under different conditions by different operators can thus be correlated.

Evaluation of therapy in an arthritic patient

Long-term history of rheumatoid arthritis. This 63-year-old woman had suffered from rheumatoid arthritis for 24 years. She had required corticosteroids for 15 of these years, discontinued on occasion. Complicating diseases: previous myocardial infarction and congestive heart failure. At time of examination, medications included chloroquin, 125 mg. daily for 1½ years, aspirin, and physical therapy. Physical examination revealed chronic synovitis of metacarpal phalangeal and proximal interphalangeal joints, elbows, wrists, knees, and ankles.



Clinical Considerations: Side Effects—Although betamethasone differs significantly from other corticosteroids in potency and electrolyte effects, it can cause the reported side effects of corticosteroids including moon facies, supraclavicular fat pads, hirsutism, striae, acne, abdominal distention, dyspepsia, convulsions, aggravation of hypertension or infection, edema, weight gain from increased appetite, petechiae or purpura, insomnia, facial erythema, activation or complication of peptic ulcer including perforation and hemorrhage, psychic disturbance, relative adrenocortical insufficiency, alteration of glucose metabolism with aggravation of diabetes mellitus, increased intraocular tension, or menstrual irregularity. High doses of corticosteroids given continuously for prolonged periods can cause protein depletion and myopathy, osteoporosis reversible only with difficulty, spontaneous fractures, suppression of growth in children, and posterior subcapsular cataracts occasionally requiring extraction. These side effects are not to be anticipated following occasional administration systemically for the control of acute conditions. Thrombophlebitis, acute pancreatitis, and ulcerative esophagitis have been reported to occur occasionally with systemic corticosteroid therapy. A cause and effect relationship, however, has not been statistically demonstrated. Necrotizing angiitis (polyarteritis nodosa) has also been reported to occur in rare instances in patients treated with corticosteroids. When adverse reactions occur, they are usually reversible and disappear when treatment with the hormone is discontinued. **Contraindications**—Corticosteroids are contraindicated in active, questionably healed, or suspected tuberculosis, although they have been given in selected cases concomitantly with antituberculotic agents. Acute ocular herpes simplex is usually considered an absolute contraindication. The physician must weigh anticipated clinical improvement against the possibility of undesirable side effects in the following conditions ordinarily considered relative contraindications to corticosteroid therapy: osteoporosis, marked emotional instability, peptic ulcer, acute and chronic infections including fungal and exanthematous diseases, pregnancy (except in severe disease), thromboembolic tendencies, diverticulitis, recent intestinal anastomosis, renal insufficiency, hypertension, and diabetes mellitus. **Precautions**—In children, because of frequency of viral infections and possibility of growth suppression, prolonged corticoid therapy should be used with extreme caution. Consider discontinuing therapy in patients with exanthematous disease or exposed to it. Use in the controlled diabetic patient should be closely observed. Prolonged corticoid therapy may depress adrenal cortex; withdrawal should be gradual. Observe newborn infants of corticoid-treated mothers for temporary hypoadrenalism. Supportive corticoid therapy is advisable in surgery, shock, injury, other severe stress. Corticoids may mask signs of infection. Such intercurrent infections should be confirmed and vigorous anti-infective therapy administered. **For more complete details, consult package insert or Schering literature available from your Schering Representative or Medical Services Department, Schering Corporation, Union, New Jersey 07083.**

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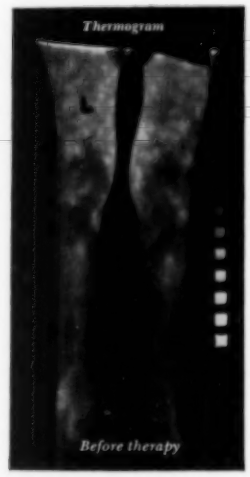


Objective evidence of improvement on short-term therapy with CELESTONE Tablets

*At left, **thermogram** of knee and ankle joints (June 28, 1967), prior to therapy with* CELESTONE *Tablets, shows prominent "hot spots" appearing as white or light areas—indicating abnormal warmth—particularly evident over inflamed knee and ankle joints.*

*At right is **thermogram** of the same joints (July 5, 1967), after one week of therapy with* CELESTONE *Tablets, 0.6 mg. three times daily, together with continuing chloroquin, aspirin, and physical therapy. There was significant improvement in the thermogram, most marked over the ankle joints where the light gray or white areas indicating warmth from inflammation have virtually disappeared. Also readily evident at knee joints are dark areas which give visual objective confirmation of improvement of the inflammatory processes.*

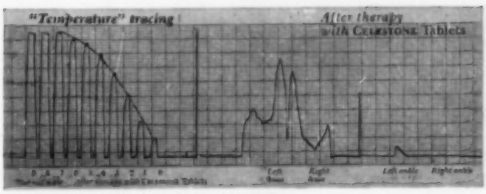
Average skin temperatures dropped significantly after therapy with CELESTONE Tablets. Skin temperature readings were as follows before and after therapy.

	Before therapy Average temp. °C.	After therapy Average temp. °C.	Temp. drop
Lt. knee	33.5	31.0	2.5
Rt. knee	33.0	30.0	3.0
Lt. ankle	35.0	29.5	5.5
Rt. ankle	32.0	? (off scale)	2.0 (at least)

Activity index showed marked improvement following therapy with CELESTONE Tablets. This activity index for evaluation of the severity of symptoms in rheumatoid arthritis is based on six reversible and quantifiable items. First, three subjective or interview items—duration of morning stiffness, time after rising of onset of fatigue, and daily aspirin requirements for control of pain; secondly, three semiobjective items—grip strength, articular index of active joint inflammation, and sedimentation rate measurements by the Westergren or Cutler method. Lowered activity index values indicate improvement.

In the patient described here, the activity index when she was first seen was 75. Following one week of therapy with CELESTONE Tablets, the index had dropped to 45, indicating significant overall improvement in symptomatology. She was also markedly improved subjectively.

***"Temperature" tracings.** The inked tracings at left and right are means of calibrating and quantitating thermograms obtained on different occasions. With these tracings, the density of shading is determined electronically through densitometer measurement standardized by the light waves at the time of reading. (See table in last column for average skin temperature readings before and after therapy with* CELESTONE *Tablets.)*



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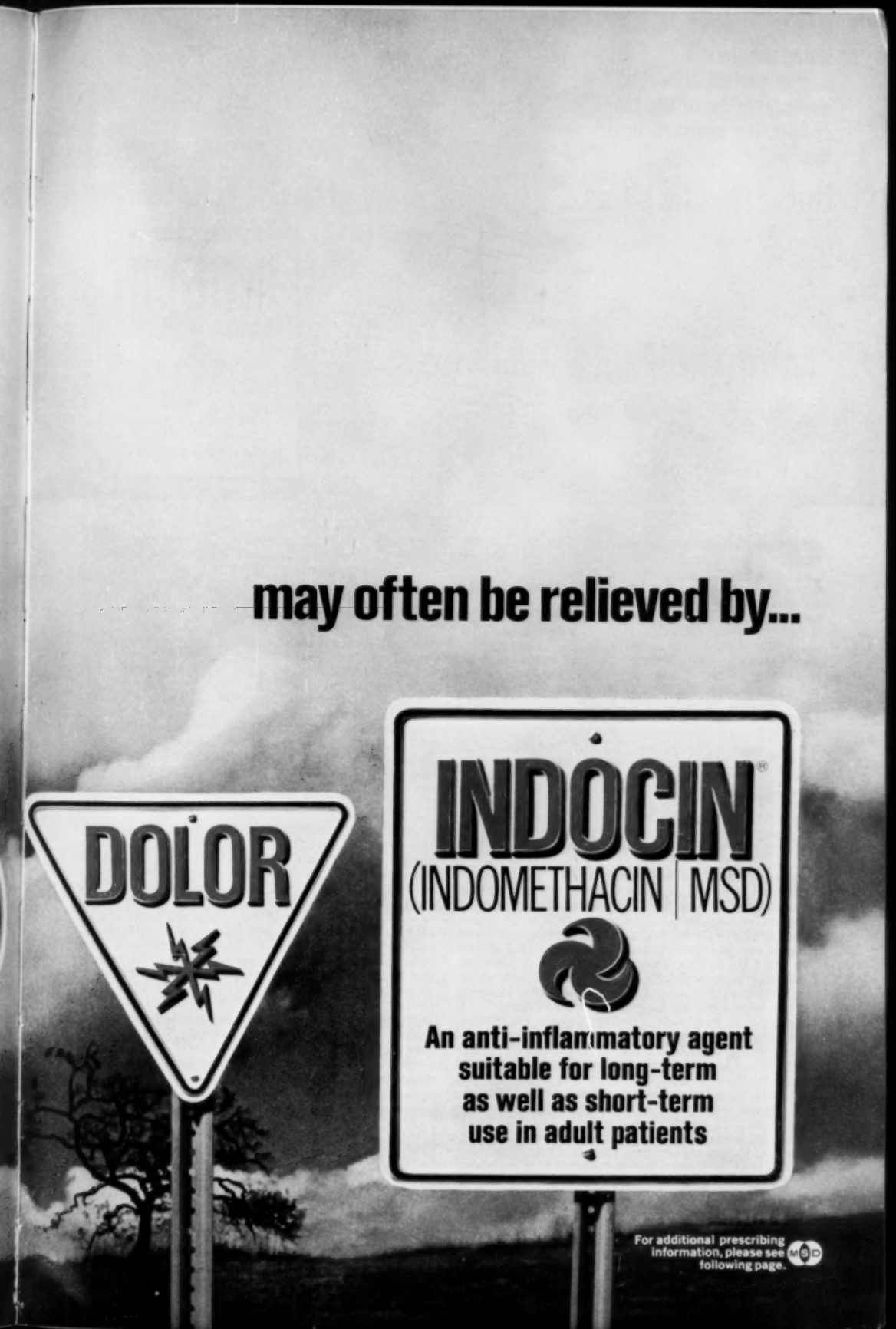
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IMPORTANT NOTE: INDOCIN (indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended under Indications. The drug should not be prescribed for children because safe conditions for use have not been established.

Indications: For the symptomatic treatment of rheumatoid arthritis, rheumatoid (ankylosing) spondylitis, degenerative joint disease (osteoarthritis) of the hip, and gout.

Contraindications: INDOCIN may mask the signs and symptoms of peptic ulcer and may itself cause peptic ulceration or irritation of the G.I. tract. For these reasons it should not be given to patients with active peptic ulcer, gastritis, regional enteritis, or ulcerative colitis (use with caution if there is history of these disorders); aspirin-sensitive asthmatics. Safe use during pregnancy or during lactation has not been established. Should not be prescribed for children because safe conditions for use have not been established. In a few cases of severe juvenile rheumatoid arthritis receiving INDOCIN along with other drugs, severe reactions, including fatalities, have been reported.

Warnings: Patients who experience dizziness, lightheadedness, or feelings of detachment on INDOCIN should be cautioned against operating motor vehicles or machinery, climbing ladders, etc. Use cautiously in patients with psychiatric disturbances, epilepsy, or parkinsonism since it may aggravate these conditions.

Precautions: Use cautiously in patients with a history of peptic ulcer, gastritis, regional ileitis, or ulcerative colitis because of its potential for causing G.I. bleeding. May cause single or multiple ulceration of the esophagus, stomach, duodenum, or small intestine, and, in a few instances, severe bleeding and perforation with a few fatalities have been reported. May potentiate the ulcerogenic effect of steroids, salicylates, or phenylbutazone. Gastrointestinal bleeding with no obvious ulcer formation has also been noted; the drug should be discontinued if G.I. bleeding occurs. As a result of obvious or occult G.I. bleeding, some patients may manifest anemia, and for this reason periodic hemoglobin determinations are recommended. G.I. effects may be minimized by giving the drug with food or with antacids or immediately after meals. In common with other drugs that have anti-inflammatory, analgesic, and antipyretic properties, indomethacin may mask the signs and symptoms of infection; avoid undue delay in initiating appropriate treatment of the infection; use cautiously in patients with existing, but controlled, infections. As with any new drug, patients should be followed carefully to detect unusual manifestations of drug sensitivity.

Adverse Reactions: Starting therapy with low doses, with gradual increases when necessary, will minimize adverse reactions. *Central Nervous System:* Most commonly, headache (usually more severe in morning), dizziness, and lightheadedness; infrequently observed reactions include mental confusion, drowsiness, convulsions, coma, depression, and other psychic disturbances, such as depersonalization; C.N.S. effects are often transient and frequently disappear with continued treatment or reduced dosage. The severity of these effects may occasionally require cessation of therapy. *Gastrointestinal:* Most commonly, nausea, anorexia, vomiting, epigastric distress, abdominal pain, and diarrhea; others that may develop are ulceration, single or multiple, of esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage with a few fatalities having been reported; G.I. bleeding without obvious ulcer formation, increased abdominal pain in patients with preexisting ulcerative colitis; less commonly, stomatitis; gastritis; bleeding from the sigmoid colon, occult in type or from a diverticulum, and perforation of preexisting sigmoid lesions (diverticulum, carcinoma); G.I. reactions not known definitely to be attributable to indomethacin include development of ulcerative colitis and of regional ileitis. *Hepatic:* Rarely, jaundice and hepatitis. *Cardiovascular-Renal:* Infrequently, edema, elevation of blood pressure, and hematuria. *Dermatologic-Hypersensitivity:* Infrequently, pruritus, urticaria, angioneurotic edema, angiitis, skin rashes, loss of hair, and acute respiratory distress including sudden dyspnea and asthma. *Hematologic:* Infrequently, leukopenia, purpura, and thrombocytopenia; rarely, agranulocytosis and bone marrow depression have been reported, but a definite relationship to the drug has not been established; since some patients may manifest anemia secondary to obvious or occult G.I. bleeding, periodic hemoglobin determinations are recommended. *Eye-Ear:* Infrequently, tinnitus, blurred vision, hearing disturbance, and orbital and periorbital pain. *Miscellaneous:* Rarely, vaginal bleeding, hyperglycemia, and glycosuria.

Supplied: Capsules containing 25 mg. indomethacin each, in bottles of 100 and 1000; capsules containing 50 mg. indomethacin each, in bottles of 100.

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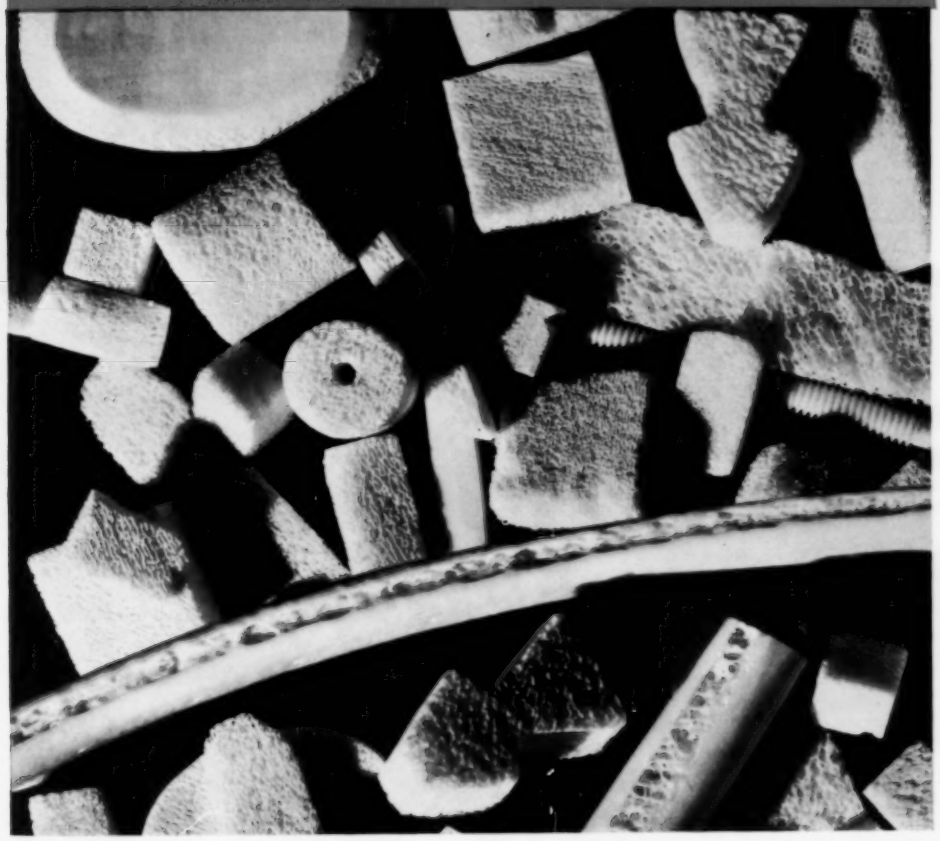

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1. Proc. roy. Soc. Med. (1967) **60**, 1077

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WARNING: Transient lightheadedness or dizziness following NORFLEX-INJECTABLE may occur.

SIDE EFFECTS: Due mainly to anticholinergic action and usually at high dosage. They may include dryness of the mouth, tachycardia, palpitation, urinary hesitancy or retention, blurred vision, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, constipation, and drowsiness. Infrequently, mental confusion in the elderly, urticaria or other dermatoses. Side effects are usually eliminated by reduction in dosage. Two cases of aplastic anemia, with no established causal relationship, have been reported.

DOSAGE: **INJECTABLE** – Average adult dose: one ampul, 2 cc. (60 mg. orphenadrine citrate) I.M. or I.V. May be repeated every 12 hours. Relief may be maintained with one NORFLEX tablet b.i.d. **TABLETS** – Two tablets per day for adults, one in the morning, one in the evening. Each tablet contains 100 mg. orphenadrine citrate.

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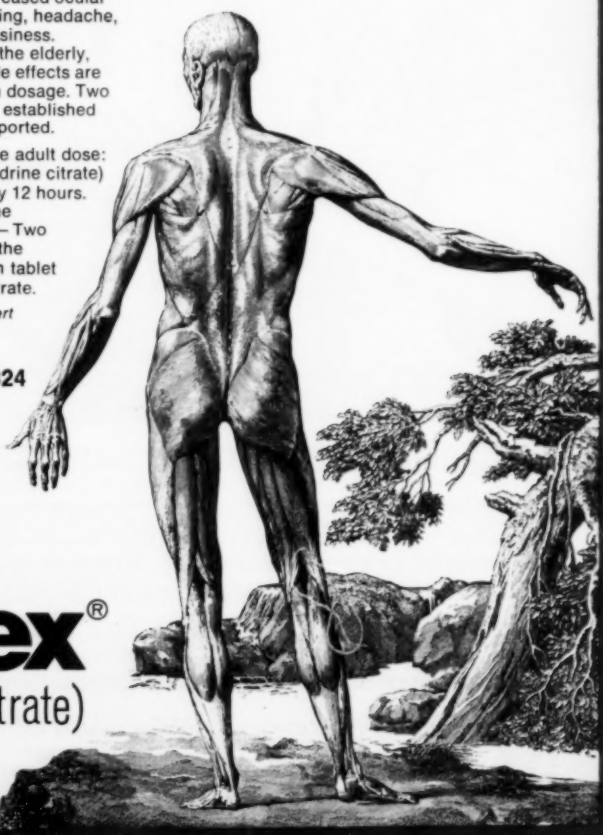

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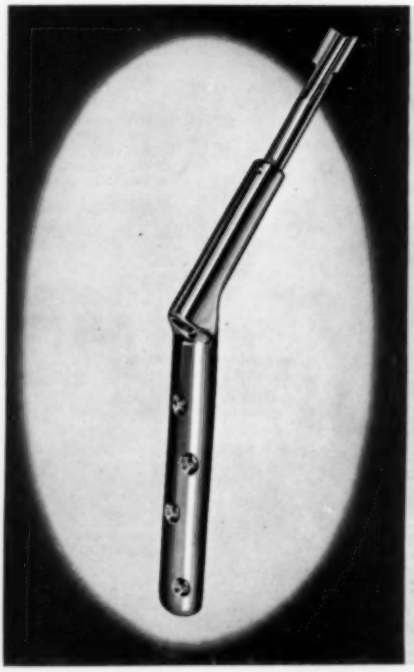

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